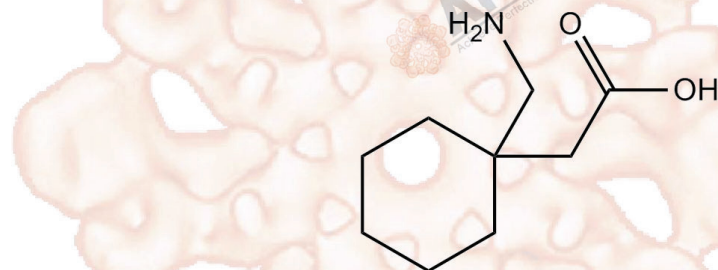


Product Data Sheet

Gabapentin

Cat. No.:	A8436
CAS No.:	60142-96-3
Formula:	C ₉ H ₁₇ NO ₂
M.Wt:	171.24
Synonyms:	
Target:	Neuroscience
Pathway:	GABA Receptor
Storage:	Store at -20°C



Solvent & Solubility

≥2.6 mg/mL in EtOH; ≥25.85 mg/mL in H₂O; insoluble in DMSO

In Vitro	Preparing Stock Solutions	Mass			
		Solvent	1mg	5mg	10mg
		Concentration			
		1 mM	5.8398 mL	29.1988 mL	58.3976 mL
		5 mM	1.1680 mL	5.8398 mL	11.6795 mL
		10 mM	0.5840 mL	2.9199 mL	5.8398 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	GABA enhancer	
IC ₅₀ & Target		
In Vitro	Cell Viability Assay	
	Cell Line:	Pyramidal neocortical cells
	Preparation method:	Limited solubility. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
	Reacting conditions:	10 μM

	Applications:	Gabapentin inhibited calcium currents in pyramidal neocortical cells (up to 34%). The gabapentin-mediated inhibition of calcium currents saturated at particularly low concentrations (around 10 μ M), at least in neocortical neurons (IC50 about 4 microM)
In Vivo	Animal experiment	
	Animal models:	Rat model of neuropathic pain dynamic allodynia, rat model of brain demyelination evoked by intracerebral injection (i.c.i) of ethidium bromide
	Dosage form:	Oral administration, 10-100 mg/kg
	Applications:	In the rat model of neuropathic pain dynamic allodynia, gabapentin (10-100 mg/kg, p.o.) dose-dependently blocked both types of allodynia. The intrathecal administration of gabapentin dose-dependently (1-100 μ g/animal) blocked both static and dynamic allodynia. Administration of similar doses of gabapentin into the hind paw failed to block these responses. In a rat model of brain demyelination evoked by intracerebral injection (i.c.i) of ethidium bromide, gabapentin administered at 300 mg/kg increased cortical MDA by 66%. Gabapentin decreased GPx activity by 54.3%. Gabapentin decreased nitrite by 21.4% and 29.2% at 100 and 300 mg/kg, respectively. Gabapentin increased AChE activity increased by 28.6% and 69.3% at 100 and 300 mg/kg, respectively. Gabapentin decreased paraoxonase activity by 83.3% and 73% at 100 and 300 mg/kg, respectively.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

- [1]. Abdel-Salam O M E, Khadrawy Y A, Mohammed N A, et al. The effect of gabapentin on oxidative stress in a model of toxic demyelination in rat brain[J]. 2012.
- [2]. Field M J, McCleary S, Hughes J, et al. Gabapentin and pregabalin, but not morphine and amitriptyline, block both static and dynamic components of mechanical allodynia induced by streptozocin in the rat[J]. Pain, 1999, 80(1): 391-398.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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